

1 **SUPPLEMENTARY FIGURE LEGENDS**

2

3 **Supplementary Figure 1**

4 **(A) Histological changes in kidney tissues from control or cisplatin-mice treated with saline,**
5 **AICAR or ALCAR at 4 days. Scale bar (black) 50 μ m. (B) Effect of ALCAR treatment on the**
6 **number of casts and necrotic tubuli in mice with cisplatin-induced AKI at 4 days. HPF, high-**
7 **power field. **P<0.01 using ANOVA corrected with Bonferroni coefficient (n=8 mice per**
8 **group). Data are expressed as Box-plot diagram.**

9

10 **Supplementary Figure 2**

11 SIRT3 protein (green) colocalizes with the mitochondrial protein VDAC (red) in renal tissue of
12 control mice. Scale bar (white) 20 μ m.

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14 **Supplementary Figure 3**

15 Representative images of SIRT3 protein staining (green) in mouse proximal tubuli of control and
16 cisplatin mice given saline or ALCAR at 4 days. Scale bar (white) 10 μ m.

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18 **Supplementary Figure 4**

19 Renal function in WT and *Sirt3*^{-/-} mice with cisplatin-induced AKI at 2 and 4 days. ***P<0.001 by
20 unpaired T test (n=8 mice per group). **Data are expressed as Box-plot diagram.**

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22 **Supplementary Figure 5**

23 Survival curves of WT and *Sirt3*^{-/-} mice with glycerol-induced AKI. **P<0.01 using Log rank test.
24 (n= 8 WT mice+glycerol; n= 7 *Sirt3*^{-/-} mice+glycerol). Values are mean \pm SEM.

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26 **Supplementary Figure 6**

1 (A) Quantification of fluorescence signal of SIRT3 protein (red) and mRNA expression in control
2 or transfected RPTEC with GFP-tagged (green) SIRT3 plasmid (pSIRT3) at 48 h. ***P<0.001 by
3 unpaired T test. Values are mean \pm SEM (n=3 experiments). Scale bar (white) 10 μ m. (B)
4 Quantification of Opa1 immunofluorescence signal (Pixel²/cell) in control and cisplatin-injured
5 RPTEC untransfected or transfected with pSIRT3. *P<0.05 and **P<0.01 using ANOVA corrected
6 with Bonferroni coefficient. Values are mean \pm SEM (n=3 experiments).

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Supplementary Table 1

Renal function in control and cisplatin-mice treated with saline, AICAR or ALCAR at 4 days

	Serum Creatinine (mg/dl)
Control	0.14±0.01
Cispl	0.75±0.18*
Cispl+AICAR	0.24±0.07°
Cispl+ALCAR	0.26±0.02°

Data are mean ± SEM

* P<0.05 vs Control

° P<0.05 vs Cispl

(n=3 mice per group) ANOVA corrected with Bonferroni coefficient

Supplementary Table 2

Morphometrical analysis of mitochondrial density and mean volume in renal tissue of control and cisplatin-mice treated with saline, AICAR or ALCAR at 4 days

	Mitochondrial density (n/ μm^3)	Mean mitochondrial volume (μm^3)
Control	0.61 \pm 0.05	0.70 \pm 0.07
Cispl	0.44 \pm 0.02*	0.43 \pm 0.03*
Cispl+AICAR	0.77 \pm 0.04* °	0.54 \pm 0.03*
Cispl+ALCAR	0.59 \pm 0.03°	0.52 \pm 0.03*

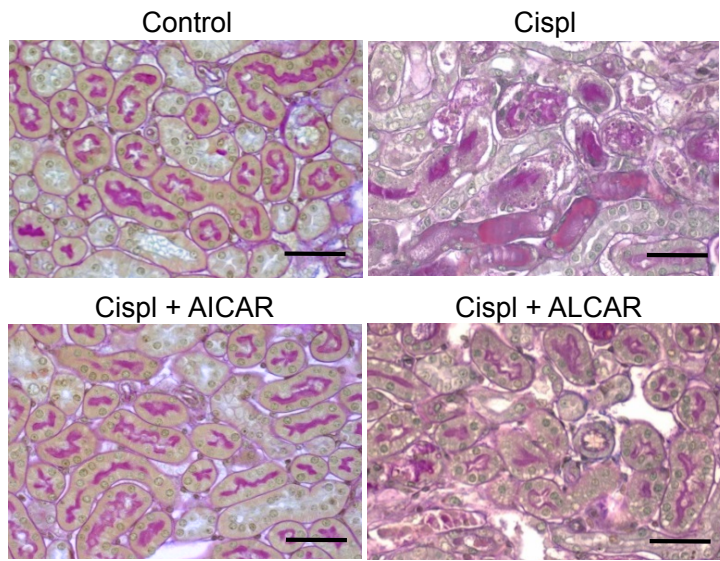
Data are mean \pm SEM

* P<0.001 vs Control

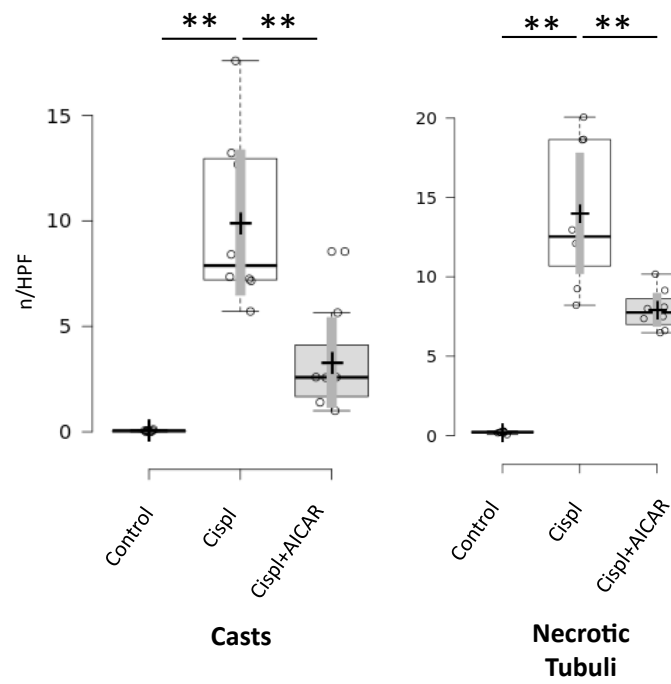
° P<0.001 vs Cispl

(n=6 mice per group) ANOVA corrected with Bonferroni coefficient

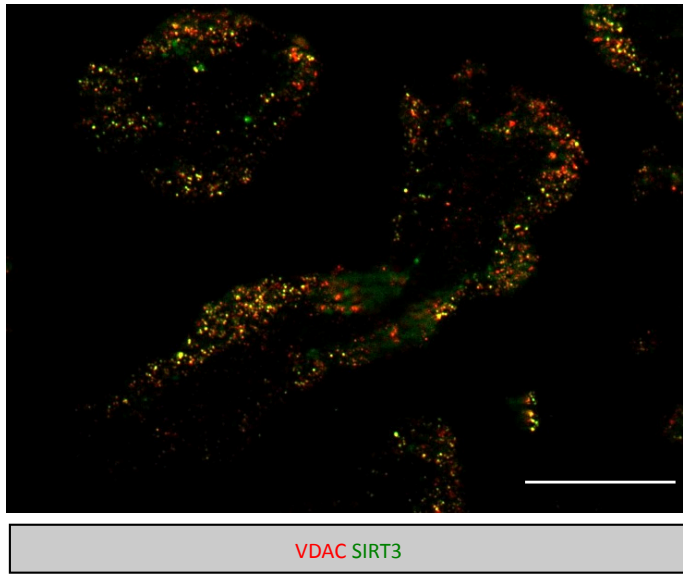
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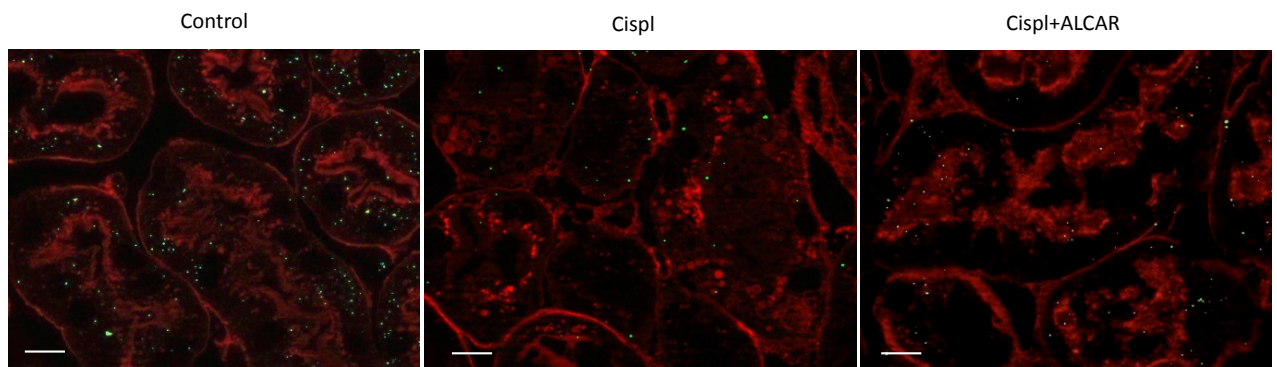
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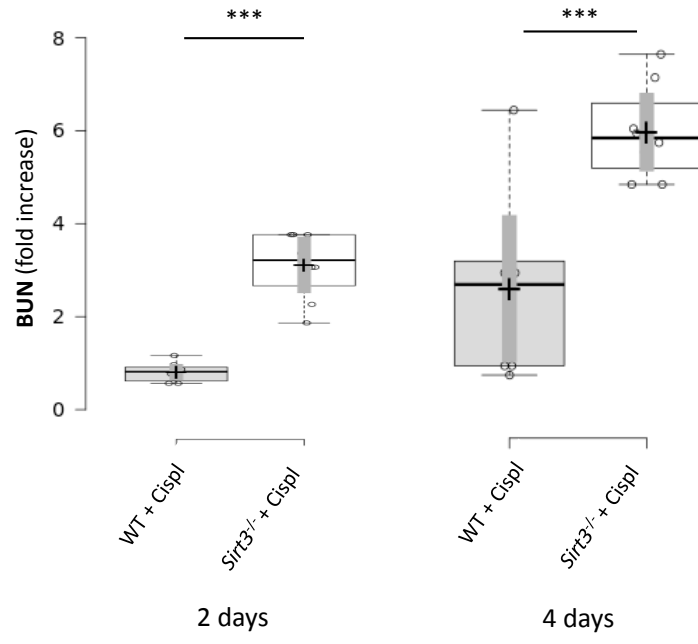
Supplementary Figure 1



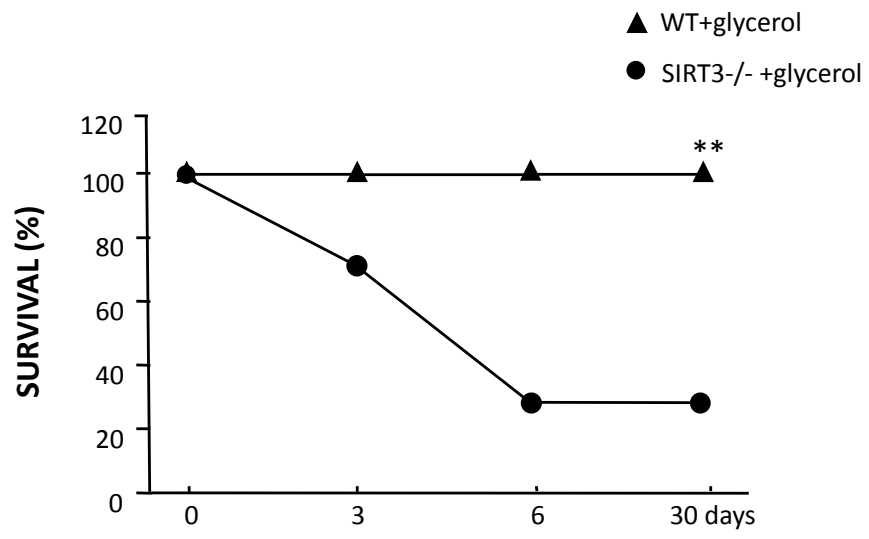
Supplementary Figure 2



Supplementary Figure 3

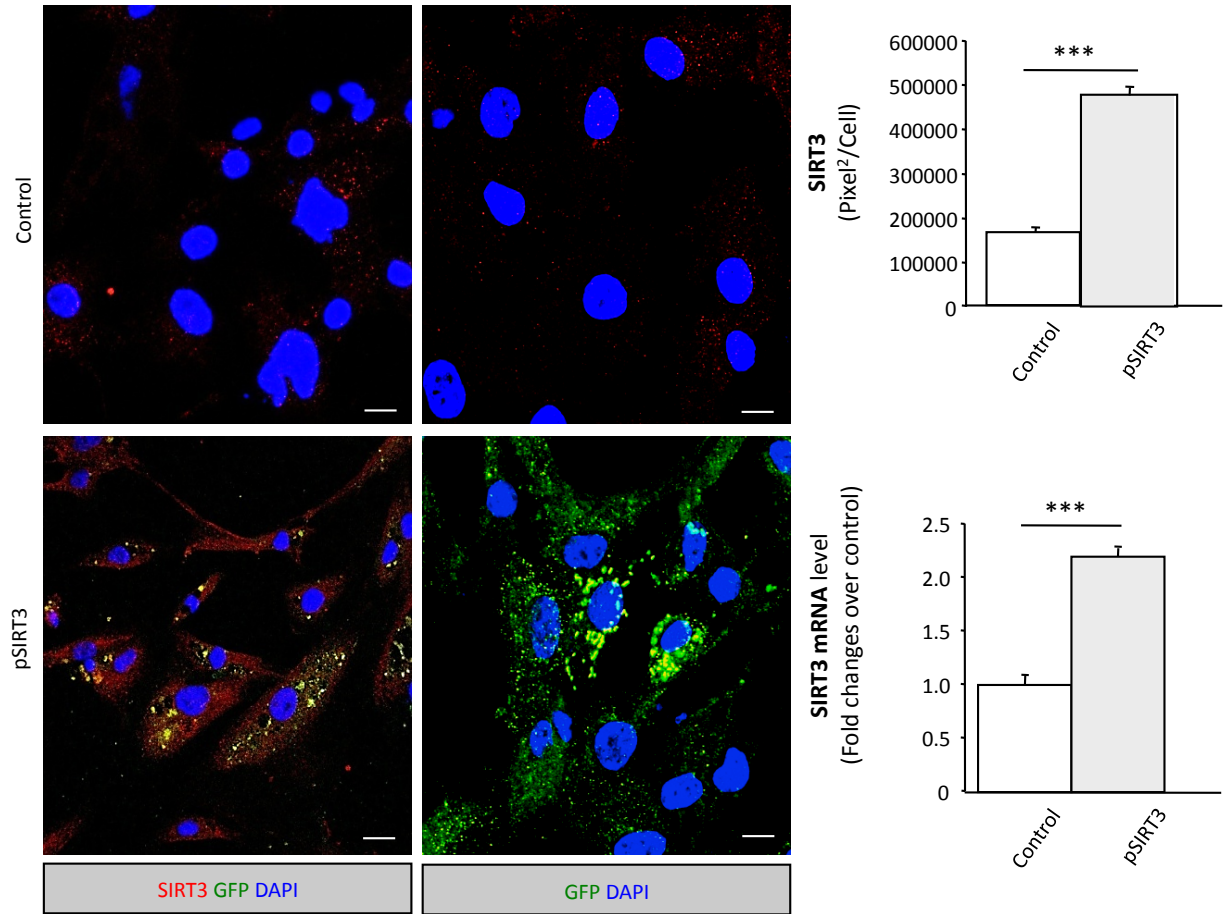


Supplementary Figure 4

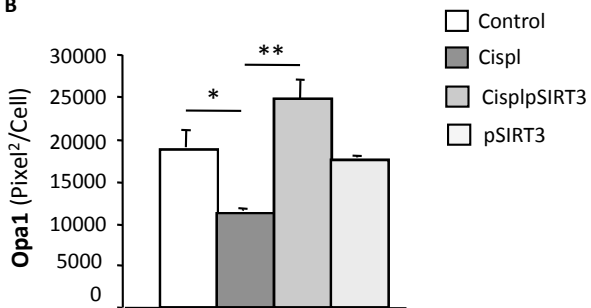


Supplementary Figure 5

A



B



Supplementary Figure 6